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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,584	07/30/2001	Peter W.J. Jones	TBRX-P01-001	2595
28120	7590	04/19/2004	EXAMINER	
ROPES & GRAY LLP ONE INTERNATIONAL PLACE BOSTON, MA 02110-2624			HAVAN, THU THAO	
			ART UNIT	PAPER NUMBER
			2672	//

DATE MAILED: 04/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/919,584

Applicant(s)

JONES ET AL.

Examiner

Thu-Thao Havan

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

Claims **1-24** are pending in the present application.

Applicant's arguments filed February 2, 2004 have been fully considered but they are not persuasive. As addressed below, Young and Havel teach the claimed limitations.

Havel discloses determining for an image presented on a full color display, the relative brightness for points of the image produced by the full color display (col. 1, line 65 to col. 3, line 11; figs. 50 and 53-54). Havel discloses the relative illumination which corresponds to the relative brightness for the image. He teaches the level of brightness when he discloses variable 2-primary and 3-primary color control circuit which is capable of illuminating the display in a selected one of several possible colors. To illuminate display in red color, the color control input R is raised to a high logic level, and the color control inputs Y and G are maintained at a low logic level. To illuminate display in yellow color, the color control input Y is raised to a high logic level, while the color inputs R and G are maintained at a low logic level. Thirdly, to illuminate display in red color, the color control input R is raised to a high logic level, while all remaining color control inputs are maintained at a low logic level. Thus, the color control causes display to illuminate in a selected color.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims **1-24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Young et al. (US patent no. 5,682,180) in view of Havel (US patent no. 6,018,237).

Re claim **1**, Young teaches a method that gives the perception of a display with a full range of color from a matrix of optical elements of a first or a second color (col. 1, lines 8-37), comprising providing a two-color display of optical elements of a first color and a second color and being arranged in an alternating pattern (col. 5, line 57 to col. 6, line 44), and translating the relative brightness of the points created by the full color display into a corresponding brightness for the respective points on the two-color display (col. 8, lines 12-58). In other words, Young discloses electronic color displays, including CRTs and flat-panel color displays particularly displays based on the opponent color vector phenomenon, including two-element scanned and matrix-addressable color displays. He teaches a pattern other than checkerboard could be used for the polarizing elements of the combined neutral density/dichroic pair. For instance, alternating neutral density and dichroic stripes, either vertical or horizontal, could be used. Consequently, with the appropriate groupings of patterns and rotations, either white/black or orange/cyan colors can be produced. This is true for any pair of color combinations, where the pair is chosen in accord with the opponent color scheme. Furthermore, Young teaches an electronic display generates an image which, through substantial

Art Unit: 2672

registry of two opponent vector images, is perceived as a full color image. The display receives two channels of information representing two opponent color vectors of an image to be displayed, develops two images in the two opponent color vectors, and superimposes the two images to generate the image which is perceived as a full color image.

Young fails to specifically disclose determining for an image presented on a full color display, the relative brightness for points of the image produced by the full color display as claimed. However, Havel teaches determining for an image presented on a full color display, the relative brightness for points of the image produced by the full color display (col. 1, line 65 to col. 3, line 11). Havel teaches variable 2-primary and 3-primary color converter for converting an input voltage to variable color which is capable of illuminating the display in any color of the spectrum, in accordance with the magnitude of the input voltage. He also teaches a variable color digital display system capable of displaying decimal numbers and integers in different brightness level of colors. Thus, it would have been obvious for one of ordinary skill in the art to combine determining for an image presented on a full color display, the relative brightness for points of the image produced by the full color display of Havel to the system of Young because it would have enabled illuminating the display in a selected one of several possible colors (Havel: col. 2, lines 1-19).

Re claims **2, 6-7, and 14**, Young teaches translating includes mapping a three dimensional coordinate representative of the relative brightness of a point to a two

dimensional point (col. 8, lines 12-58). Young teaches the dimension of the coordinates consisting of XYZ which are in three dimensional and can be in two dimensional too.

Re claims **3-5 and 15**, Young teaches a flashing period representative of a timing pattern for flashing the two-color display (figs. 1a-1b).

Re claims **8 and 16-19**, Young teaches a noise signal and summing the noise signal with the relative brightness for the two-color of the first and/or the second color emitter (col. 3, lines 12-49). Young discloses green/magenta vector accounts for only 6% of the color. It is negative in the middle of the spectrum and positive at the extremes (the remaining 7% of the color variance is attributable to noise in the neural data).

Re claim **9**, Young teaches a video driver for driving a video display as a function of the translated relative brightness of points for a two-color display (col.4, line 56 to col. 5, line12). In other words, Young teaches the electronic data of a conventional video camera can readily be converted into the opponent color vectors. Conventional video cameras typically record three separate images of a scene, a red image, a green image, and a blue image, which represent traditional color theory images of the scene.

Re claims **10-11 and 17**, Young teaches optical elements comprise light emitting diodes and filters (col. 7, lines 26-52). In other words, Young discloses a projection display using two flat-panel matrix-addressable filters.

Re claims **20-23**, Young teaches a border having a color that is the combination of the first and the second colors or the two color display and being arranged substantially around the periphery of the display (figs. 1-2 and 5).

Re claim **24**, Havel teaches led, lcd, crt, and light emitting polymer display (figs. 28 and 30).

Re claims **12-13**, the limitations of claims 12-13 are identical to claim 1 above. Therefore, claims 12-13 are treated the same as discussed with respect to claim 1 above.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

### ***Inquiries***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu-Thao Havan whose telephone number is (703) 308-7062. The examiner can normally be reached on Monday to Thursday from 9:00-5:00.

Art Unit: 2672

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (703) 305-4713.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231


or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Thu-Thao Havan  
April 13, 2004



MICHAEL RAZAVI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600